

## CLAIMS

### What is claimed is:

1. A method of predicting the lapping property of a lapping plate, comprising:
  - (a) positioning a tool on a lapping plate;
  - (b) rotating the lapping plate;
  - (c) restraining the tool relative to the lapping plate;
  - (d) measuring frictional force between the tool and the lapping plate;
  - (e) measuring a consumption of the tool by the lapping plate; and
  - (f) determining a lapping rate of the lapping plate.
2. The method of claim 1, further comprising rotating the lapping plate for a specific time so that adequate removal of material from the tool occurs, determining the lapping rate over a time interval, and assessing the lapping rate and friction to determine if the lapping plate is acceptable.
3. The method of claim 1, further comprising determining the lapping rate under a fixed load and a fixed rotation speed, and thereby calculating a coefficient of friction and a Preston coefficient of the lapping plate.
4. The method of claim 1, wherein step (e) is non-invasive.
5. The method of claim 1, wherein step (e) comprises detecting a gap distance between the tool and the lapping plate.
6. The method of claim 1, wherein step (c) comprises holding the tool with a set of guide wheels that keep the tool in place when the lapping plate is rotating.

7. The method of claim 1, further comprising mounting a plurality of specimens to the tool for contact with and consumption by the lapping plate.
8. The method of claim 1, further comprising charging the lapping plate with abrasive.
9. The method of claim 1, further comprising adding a weight to the tool so that the tool and the lapping plate experience a pressure that is analogous to a slider lapping pressure.
10. The method of claim 1, wherein step (d) comprises using a strain gage.

11. A method of predicting the lapping property of a lapping plate, comprising:
- (a) positioning a tool on a lapping plate that is charged with abrasive;
  - (b) rotating the lapping plate for a specific time to remove material from the tool;
  - (c) restraining the tool relative to the lapping plate;
  - (d) measuring frictional force between the tool and the lapping plate;
  - (e) measuring a consumption of the tool by the lapping plate; and
  - (f) determining a lapping rate of the lapping plate over a time interval, and assessing the lapping rate and friction to determine if the lapping plate is acceptable, wherein the lapping rate is determined under a fixed load and a fixed rotation speed, and thereby calculating a coefficient of friction and a Preston coefficient of the lapping plate.
12. The method of claim 11, wherein step (e) is non-invasive and comprises detecting a gap distance between the tool and the lapping plate.
13. The method of claim 11, wherein step (c) comprises holding the tool with a set of guide wheels that keep the tool in place when the lapping plate is rotating.
14. The method of claim 11, further comprising mounting a plurality of specimens to the tool for contact with and consumption by the lapping plate.
15. The method of claim 11, further comprising adding a weight to the tool so that the tool and the lapping plate experience a pressure that is analogous to a slider lapping pressure.
16. The method of claim 11, wherein step (d) comprises using a strain gage.